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WEEDS TREES & TURF®

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Government News

President Gerald Ford vetoed a six-month extension for the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) Sept. 13.

Ford termed a rider in the extension ammendment, which would permit either house to veto pesticide actions by the EPA within 60 days of their release, unconstitutional. The amendment would have extended funding of FIFRA until October 1977.

EPA's Russell Train was pleased with the veto saying the rider placed improper restraints upon the Agency.

Ford said in the veto statement that if Congress should pass the amendment without the rider he would sign it. Apparently, the President approves of the Agency's actions.

Existing legislation funds EPA until May 1977.

The USDA has proposed nurserymen pay the cost of testing new barberry varieties for resistance to Black Stem Rust. The proposal affects only the testing of new clones and does not change annual inspection.

The EPA has reached an agreement with seed companies that will temporarily extend the manufacture and use of mercury compounds as seed disinfectants and fungicides. A February EPA cancellation would have stopped treatment of wheat, oats and other seeds with mercury-based chemicals. Now, by terms of the agreement, the use of such pesticides will not be phased out until August 31, 1978. However, a ceiling of about 50,000 pounds of the pesticides over the next two years has been imposed.

The EPA has approved the use of a virus pesticide for control of the tussock moth. The naturally occurring virus was developed successfully by Forest Service scientists in the USDA.

The final version of the Tax Reform Act agreed on by the Senate House Conferees requires corporate farms to use accrual accounting and maintain inventories but there is an exemption for nurseries. The actual wording is: "This section shall not apply to the trade or business of operating a nursery."

Errett Deck has been named coordinator, environmental quality activities, for the USDA. Deck, deputy director of the Washington State Department of Agriculture, is resigning that post to head USDA's Environmental Quality Unit. He will be concerned with programs on pesticides; land, water and air resources; and solid wastes.

The first screwworm flies artificially raised and sterilized in Mexico to help eradicate screwworms were released last month over the Baja California Peninsula. This fly-drop marks the beginning of efforts by the Mexico-American Commission for Screwworm Eradication to eliminate the pest.

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People on the Move

Paul Elias joins **ICC Industries, Inc.** as vice president to head the newly created fertilizers division which will engage in worldwide trading of large volume fertilizers. Elias was formerly director of material for United Brands. Prior to that he was one of the founders of Kaiser Trading, dealing in worldwide trading of chemicals, particularly fluorochemicals. A native of Indonesia, Elias received a master's in chemical engineering from the University of Delft, Holland.

Barry Omilinsky has recently been named director of research for the **Oil-Dri Corp. of America.** Omilinsky formerly was manager of the formulation department of the Velsicol Chemical Corp. He received a B.S. in chemistry from Roosevelt University and has done graduate work there.

Earl Tracy has been promoted to product manager-agricultural chemical division at **Thompson-Hayward Chemical Company.** He was formerly a sales representative for agricultural chemicals in the Little Rock, Ark., area. He holds a B.A. in economics from Louisiana State University.

New appointments at the agricultural division of **Ciba-Geigy Corp.** include **Les Manges,** marketing planning specialist, **Ralph Meier,** east central region sales manager, **Don Beise,** southeast regional sales manager, **Roger Allen,** western region sales manager, **Jose Lopez,** field sales representative, and **Lionel Kilby,** field sales representative. Lopez will serve the northern California counties of Calveras, Mariposa, Merced, Mono, San Joaquin, Stanislaus and Trolumne. Kilby will serve the Washington counties of Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan and Yakima.

Dr. Robert N. Carrow has been appointed as an assistant professor in horticulture and forestry at **Kansas State University,** Manhattan. He will teach graduate and undergraduate courses in turfgrass science and conduct research on turfgrasses. A native of Michigan, Carrow has been at the University of Massachusetts the past four years where he has taught and done research on turfgrasses. His B.S., M.S. and Ph.D are from Michigan State University.

Norm LeGrande of Hendricks Sodding & Landscaping, Lincoln, Neb., has been re-elected president of the **American Sod Producers Association.**

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Bad Weather Application	Yes ✓	No	No	No	No	No
Heavy Traffic Application	Yes ✓	No	No	No	No	No
No Spreader Clean Up	Yes ✓	No	No	No	No	No
Sufficient Bulk for Coverage	Yes ✓	No	No	No	No	No
All-Natural Growth Elements	Yes ✓	No	No	No	No	No
Disease & Nematode Suppression	Yes ✓	No	No	No	No	No
Water & Energy Conservation	Yes ✓	No	No	No	No	No
Complements Natural Growth Curve	Yes ✓	No	No	No	No	No
Snow & Ice Removal	Yes ✓	No	No	No	No	No
Dormant Application	Yes ✓	No	No	No	No	No
Low Salt Index	Yes ✓	No	No	No	No	No
Bacterial Action	Yes ✓	No	No	Yes ✓	Yes ✓	No
Does Not Burn	Yes ✓	No	No	No	No	No
Long Lasting	Yes ✓	Yes ✓	No	Yes ✓	Yes ✓	No
Less Nitrogen Needed	Yes ✓	No	No	No	No	Yes ✓

But what about quality?
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the great tree rip-off

This stump remains as evidence that a prime walnut was prized by tree rustlers.

by Eloise Ross

They usually operate at night, shielded by darkness as they crunch, cut and chop their way to their valued prize — the black walnut.

They are the new breed of professional criminal, tree rustlers, now illegally harvesting over $2 million in black walnuts annually in Illinois and Indiana alone. And they seem nearly impossible to catch.

Item: A Pope County, Illinois farmer discovered walnut stumps left behind in place of his trees, which were appraised at $1,300 per 1,000 board feet.

Item: Thieves hauled away 20 walnuts from the Cook County Forest Preserve near Chicago without detection.

Item: An Indiana farmer, wakened in the darkness of early morning by his watchdog, found a truckload of his trees, chopped and ready for hauling as the night's work of rustlers. The trees, worth $10,000, were cut a few nights before but thieves couldn't haul them due to thickening mud around their truck tires.

Item: Parkgoers watched in rapt admiration as a highly skilled team felled a majestic specimen and blithely drove it away, believing the team to be park employees.

But why not? Rustlers are not joyriding amateurs. According to John Sester, staff forester, Illinois Division of Forestry, these are professional timbermen, self employed loggers, since most logging companies don't have producing crews. They're better than acquainted with the work; it's their livelihood.

"You're talking about the biggest thing that grows on the earth," Sester explains. "You have to know a little bit about what you're doing." Some experts believe the thieves are trying to inject profits into their own slumping businesses.

The profit motive is certainly there. A top quality walnut trunk, measuring about 18 inches in diameter with few, if any, notches or marks, commands up to $1,900 per 1,000 board feet. A trunk may be worth $4,000. Although there is "no pipeline for stolen logs," Sester says almost any veneer mill will buy logs. Reports of stolen logs shipped into Indiana from Missouri, Ohio or Kentucky aren't unusual and many logs travel to European mills for an

Too late for the tree but soon enough for thieves, neighborhood vigilance helped Illinois authorities ***catch and arrest illegal operators before they hauled away this log.***

An Illinois forestry official records information about this near-perfect walnut theft. The state keeps thorough accounts of rustling incidents.

eager market in Germany, Japan, France and Italy.

Black walnuts grow from the U.S. to the Persian Gulf but species in Indiana, Illinois and part of Ohio are unsurpassed in their deep, brown color and ability to take a lustrous polish.

Farms, which contain 93 percent of all black walnuts, make perfect isolated targets. Location or natural hazards pose no hardship for the craftiest of rustlers. They cut through fences and drive miles along country roads or through woods to claim a tree. Some have even been known to take down trees in daylight or in front yards.

It's all very calculated and even the trees help. Walnuts lend themselves as easy marks through their rough bark, long, tapered leaves, nuts, and their characteristics of being the last tree to leaf out in spring and first to adopt a yellow tinge in fall. They are then vivid landmarks from an airplane.

Rustlers may circle a farm or preserve by air, pinpoint trees and launch their attack at night, safe in the shelter and sound absorbing qualities of leaves.

To assure anonymity, rustlers often swath their chain saws in old rugs or silence them with styrofoam. They may use cross cuts on trees and drive boom trucks that leave no tracks. Early summer is best, since there is less insect damage to the trees, winter mineral or sap stains are less noticeable, and heat doesn't tend to form pitch pocket stains as frequently.

Trees are carefully felled to avoid damaging the valuable trunks and are usually loaded on another night to prevent detection. Thieves often hide stumps with brush as well. Farmers, especially absentee landowners, often don't discover thefts for weeks to months.

But rustlers can also take bold guises, openly confronting tree owners for permission to buy timber, Sester notes. They may present themselves as forestry representatives willing to cart away "diseased" trees for the owner or promise the farmer a third of the profits

Continued on page 14

Why TERSAN® fungicides give you Total

LEAF SPOT (Helminthosporium spp.) on bluegrass.

DOLLAR SPOT (Sclerotinia homoeocarpa) on bentgrass.

TYPHULA BLIGHT or Gray Snow Mold (Typhula itoana) on a fairway.

LEAF SPOT on bentgrass (melting-out stage).

LARGE BROWN PATCH (Rhizoctonia solani).

TYPHULA BLIGHT or Gray Snow Mold, close-up view.

RUST (Puccinia graminis) on bluegrass.

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the great tree rip-off

Continued from page 11

from lumber rights they purchase for a small fee. The buyer then may pay back a third of his profits, but it's only profits from the sale to one mill. A second, third or fourth sale is funneled into his own coffers.

Tree rustling also discourages growth of new trees since the loss of unrecovered stolen logs in "fair market value" is not tax deductible. Only the cost basis of the timber is legally deducted.

The price for walnut trees has increased 730 percent in 20 years, according to the Indiana Tree Farm Committee, Indiana Division of Forestry, Purdue University Department of Forestry and Natural Resources.

As timber is depleted, prices leap, making rustling more profitable, even though walnuts are now less accessible and of lesser quality than before. Their principal use is for veneer wood but the nutmeats and nutshells find varied uses. Shells are the only products which clean jet engines without harm and work well as polish for automobile gears and as a seal against cracks in oil drilling.

When asked why all owners don't sell their walnuts to such a booming market, Sester said some don't know the value of their trees, may not wish to sell their crop or want to wait for a more lucrative sale. But the unwary landowner may find himself forced to drastic action. One farmer, exasperated by two rustling incidents, chopped and sold his remaining trees to stop the piracy.

Yet all isn't lost. Both Indiana and Illinois have laws regarding purchase of trees. Illinois', first adopted in 1967 and revised in 1969, requires buyers to be licensed by the Department of Conservation and registered with a certified card to be displayed prominently in their place of business. The bill also requires buyers to post bonds of $500 or up to $10,000, depending upon their revenues from their latest year of tree buying. One license may cover up to 10 people.

Indiana's law also provides for a mandatory registration certificate for buyers and demands a surety bond, with the same $10,000 bond ceiling as Illinois. Registration is good for a year.

Illinois also has a transportation act as another deterrent which requires anyone hauling two or more logs to prove ownership. Failure to do so may make the hauler disposition subject for court order. Owners hauling their own timber must register with the Department of Conservation stating their name, business name, if different, legal description of their real estate for growing trees or forest products, and their trees or products.

Registered owners receive a sign, decal or logo for identifying their trees. The law doesn't apply to removal of trees or parts of trees by the federal government, State of Illinois or local governments.

Transportation violations may result in $300 in fines or six months in prison or both. Registration violations are subject to fines or prison sentences. Indiana allows for convicted thieves to pay triple stumpage damages based on tree value to owners. Clandestine tree stealing in both states is punishable with fines or sentencing, depending upon the judge. Convicted rustlers in Illinois were fined $2,500 each.

John Datena, state forester in Indiana, said his state has no transportation laws because industry feels such laws are discriminatory and should be directed toward all road transportation, not just logging.

Both states publish lists of certified buyers periodically and offer listings of owners who sell timber. Registration laws serve both buyers and sellers since they are dealing with licensed, legal businesses.

Other states, such as Kansas and Iowa, have considered similar laws. Missouri treats transportation violations as a felony. Their law stops "grandmawing," the practice of rustlers claiming logs "came from grandma's."

Sester reports the Illinois laws may need some adjustments but have worked very well. The licensing act has netted some 130 arrests in seven years and 50 more arrests have been made since the transportation act took effect.

However, some enforcement problems exist. "We may need a little tighter control," he says. "Any law officer can stop a rustler. State police make stops but we really don't have local law enforcement agents enforcing it."

Illinois last received a report of black walnut thievery in 1975 but Indiana had a report filed in mid-September. Reports are usually filed immediately but often cover thefts of months to years before. Datena says only one in 12 thefts may be reported since many owners are unaware of crimes. "They see no reason for anyone to take the chance to go in their woods after one or two trees," he explains. "We're just seeing the tip of the iceberg." Sester estimates Illinois reports run about one in seven thefts.

The real need is for landowners to protect themselves. Both Indiana and Illinois are educating farmers for growing as a crop and to judge a tree's value for growth or sale. Indiana will soon release a publication

Continued on page 17

The Bel Air Country Club superintendent irrigates the whole course sitting down.

The J-M irrigation system offers him flexibility to match every condition on the course.

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FORD TRACTORS

Ford

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the great tree rip-off

Continued from page 14

for interested landowners about tree appraisal and protection.

Tree owners should begin protection by maintaining a record of their trees by locale, diameter at 4.5 feet above ground, height to the first large branch, and species. Distinguishing traits should also be noted. The best record is a photo of the tree's sides measured against a graduated pole for scale.

Marking trees is another good practice. If appearance isn't vital, a tree should be painted with a stripe down one side. Paints that won't wash off are best and the marking should cover all cracks and crevices. Phosphorescent paints are also good and each tree should be marked with a unique symbol applied with an artist's brush. Recording the mark is important. Sester warns agains scratching a tree's bark since it could damage the trunk and thieves could easily scratch it to resemble a different mark.

"But the best protection is vigilance," Sester believes, pointing to the wisdom of telling neighbors about trips and arranging patrols by police or friends . Such action helps authorities catch thieves before the load their stolen trees. Landowners are advised to walk their property every few weeks to look for any tree tampering.

Neighbors should know location of trees and of dates of any timber sales (sales are often arranged 12 to 18 months before felling). Any information about suspects should be recorded by date, time and location and information about suspects and their vehicles should be reported to the landowners and police quickly. Indiana uses a timber theft alert to bring state foresters into action to warn some 200 veneer buyers about stolen logs.

If an owner decides to sell, Sester recommends he demand that the buyer prove his certification and state licensing. "Any good buyer will be perfectly willing to identify himself," Sester notes. "He'll be willing to pay you first before you agree to a job. Most timbermen are honest. They're hardworking but you have a certain element that are downright crooked. Most of the complaints we get about timbermen are misunderstandings "

He also considers competitive bids protection. Owners may want a forester to appraise their trees but it's not necessary.

"If trees are top quality, sealed bids are a good idea."

By not using tree laws and knowing the trees' value, a landowner can fall victim to any buyer who slaps down a low fee and hauls timber far beyond that price. Everyone wants a bargain but an owner best guard against it at his expense. "The owner should realize he's dealing with the most valuable hardwood tree we produce in the U.S.," Datena stresses. "It's just a matter of driving into the woods."

Although black walnut receives the most attention from thieves, white oak veneer markets have increased 200 percent since 1956 and red oak, soft maple and ash are popular targets in some places.

But the black walnut is not yet destined for extinction. Indiana grows and sells 500,000 walnuts saplings for orchards each year at two state nurseries and Illinois' two nurseries produce trees under controlled, optimum conditions, along with seed supplied by veneer companies, In 40 years, the states may find new, hearty, 18-inch trees, repopulating the countryside with nuts, shade and wood — the perfect size for rustlers. □

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CURIOUS ABOUT CULTIVARS?

by Dr. Robert W. Schery, director, Lawn Institute

Creation of high quality lawngrass cultivars ("varieties") is a relatively recent happening. Other than a few empirically proven golf green bentgrasses (vegetatively planted), almost no intraspecific cultivar selection was undertaken in America prior to World War II, certainly not with the familiar seeded lawngrasses (principally Kentucky bluegrasses, *Poa pratensis;* fine fescues, *Festuca rubra;* perennial ryegrasses, *Lolium perenne;* unusual circumstances did produce an exceptional colonial bentgrass, Highland, naturally by ecotypic isolation in the Oregon Cascades).

Merion discovered

The situation changed rapidly after Superintendent Valentine noticed an outstanding clone of Kentucky bluegrass on an apron at the Merion golf course near Philadelphia, in the 1930s, destined to become "Merion". Merion opened the door for the avalanche of excellent new cultivars we have today, all of them improvements upon the common grass of yesteryear. Merion proved the public would willingly pay a substantial premium for outstanding performance in a turfgrass, something doubted until Arden Jacklin and his Merion associates bet otherwise in the 1950s. Merion remains an outstanding variety, as tables 1-3 point up, but in some areas newly established diseases make life difficult for this outstanding cultivar, and newer releases supersede it.

Within the last few years new cultivars have been developed at a heady pace. Until invention of distinctive germplasm in seed was given legal protection in America in 1971, initiative for breeding new turfgrasses resided largely with European breeders, (although interest in the breeding of public cultivars has long existed in American experiment stations). Today literally hundreds of new proprietary cultivars have been released and are under test, from many sources. Some never quite "make it" commercially, because of inadequate seed yields, fading performance, or from lack of adaptation to the American climate (as tends to be the case with some cultivars selected in the milder European environment).

Nevertheless a huge assortment of excellent selections is at hand, to be worked with and proved out. Progress is ever ongoing, even though the "ideal" turfgrass is unachievable considering all climates, modes of care, and personal preferences. Even now breeders face changing standards, different from only a few years ago when fertilizer was inexpensive, environmental awareness less evident, inflation less a concern, and fuel shortages not even imagined. America seems gradually changing from a life style that emphasized luxury to one emphasizing practicality. Rather few Americans are likely to opt for a prima donna lawngrass any more, simply because it "looks pretty"!

Sorting them out

With the abundance of new cultivars, it is necessary to sort them to determine which are best, for what purposes and in what locations. That things are not always what they seem to be is evident from tables 1-3; notable inconsistencies can be found, depending upon region, the evaluator's impression, and sheer chance (often two plots of the same cultivar, in the same location, managed in like fashion, will rate quite differently!). So there is a place for "specialist" grasses that would otherwise seem to be out-

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Dr. Schery holds a A.B., M.S. and Ph.D. from the University of Washington, having done research at the Missouri Botanical Gardens. He has taught botany at the University of Wisconsin and served as a botanist for Monsanto Chemical and Scott Seed Co. before joining the Lawn Institute in 1957.

TABLE 1. Performance of lawngrass cultivars on the West Coast. A = in top third (A* = in top 10%), B = in middle third, C = in bottom third of ratings compiled by local authorities. For specific responses, 1 = good, 2 = medium, 3 = poor.

			WASHINGTON			CALIFORNIA	OREGON
KENTUCKY BLUEGRASSES	low mowed winter	low mowed summer	winter	tall mowed summer	leafspot	statewide	
Adelphi	B	B	A	A	1		
Arboretum			B	B	3		
Arista	C	B	B	B	1		
Baron	A	A	A	A*	2	A	
Birka	A	B	A	B	1		
Bonnieblue	A*	A*	A	A	1		
Brunswick	C	C	B	C			
Enmundi							
Fylking	B	A*	C	C	1	A*	
Galaxy	A*	A	A	B	2		
Georgetown							
Glade	B	A	A	A	3		
Majestic	B	A	A	B	2		
Merion	B	A	B	A	3	C	
Nugget	A	A	C	B	1	B	
Pennstar	B	B	C	B	1	B	
Plush							
Prato	C	C	C	C	2	C	
Ram I	C	B	A	A*	3		
Sodco	B	B	A	B	3	A	
Sydsport	A*	A*	A	A	1		
Touchdown							
Common	C	C	C	C	2	C	
Park						C	
Windsor	B	A	B	A*		B	
FINE FESCUES	Winter	Summer	Red thread	Fusarium			
Atlanta	B	A	2	2			
Banner							
Fortress	C	C	3	3			
Highlight	A	A	1	1		C	
Jamestown	B	A	1	1		A	
Koket	B	A	2	1			
Pennlawn	C	B	2	1		B	
Ruby	C	B	3	1		C	
PERENNIAL RYEGRASSES	Winter quality	Summer appearance	Neat mowing				
Citation							A
Compas	B	C	2				C
Derby							A
Diplomat							A
Game	C	B	2				B
Manhattan	A	A	1			A	B
NK-100	C	B	3				C
NK-200	B	A	2			B	
Pelo	B	A	2				
Pennfine	C	A	2			A	B
Yorktown							A
Common	C	B	3				C

TABLE 2. Performance of lawngrass cultivars in the Midwest. A = in top third (A* = top 10%), B = in middle third, C = in bottom third of ratings compiled by local authorities. For specific responses, 1 = good, 2 = medium, 3 = poor.

	MISSOURI							ILLINOIS	ALABAMA	MICHIGAN					
										Southern				Northern	
KENTUCKY BLUEGRASSES	5 Year average Central	2 yr. Cent.	2 yr. S.E.	2 yr. S.W.	Leaf-spot	Rhizoc-tonia & Fusarium	Rust		overall average	5 year average	Spring	Leaf-spot	Snow-mold	4 year average	Snow-mold
Adelphi	C	B	A*	B				A	B	A*	1	1	1	A	1
Arboretum														C	3
Arista	C				3	3	3			C	3	2	3	B	3
Baron		B	A	B				B	A	A	1	2	1	A	1
Birka	A														
Bonnieblue	A	C	C	B				A	B	A				A	1
Brunswick		A	A	A										A	2
Enmundi		A	A	A				A	B						
Fylking	A	C	C	B		3		C		B	2	2	3	A	3
Galaxy	B	B	B	B				A		A*	1	1	1	A*	1
Georgetown	B													A*	2
Glade		A*	B	A				B							
Majestic	B	B	C	C				A	C						
Merion	B	B	B	B			3	A	C	A	1	1	1	A	2
Nugget	C	C	C	B		3		C	B	A	1	1	1	B	2
Pennstar	B	B	C	C				B		B	2	1	3	B	3
Plush		A	A	A*				A							
Prato							3			C	3	2	3	B	3
Ram I		B	A	C				B	C						
Sodco	A*	B	A	B				A		A	1	1	1	B	1
Sydsport	A	C	A*	C				B		A	1	1	1	A	3
Touchdown		A	C	B				A	C						
Common	C	B	C	B	3					C	3	3	3	C	3
Park	B	C	A	A	3			B		C	3	3	3	C	3
Windsor	A*	A*	A*	A				A		C	2	3	2	C	3
FINE FESCUES										2 yr. av.				5 yr. av.	
Atlanta										A					
Banner															
Fortress															
Highlight								C		A				C	
Jamestown								A		A				B	
Koket								A		B					
Pennlawn								A		B-C				A	
Ruby										C				B-C	
PERENNIAL RYEGRASSES															
Citation															
Compas										A					
Derby															
Diplomat															
Game															
Manhattan								A		A					
NK-100								C		C					
NK-200								B							
Pelo								C		A					
Pennfine								A		A					
Yorktown															
Common								C							

CULTIVARS

Continued

	OHIO				PENNA.
	Central 4 year average	low maintenance	disease resistance	Northern 3 year average	
2	A*	B	1	A	
	B	C	2		
1	A			B	
	B				
2	C			A	
	B				
	B				
B	C	1	C		
2	A				
1					
	A			A	
	A				
1	A	B	1	B	
1	A	C	2	B	
	B	C	1	C	
	A				
	B				
	A			A	
2	A*	B	1	A	
2	B	C	1	B	
	B			A	
3		A	2	C	
3	C	A	2		
	B	A	2	C	
	A				
	C				
	A				
	A				
	A				
	B				
	C				
					4 yr. av.
	C				B-C
	A				A-A
	C				B-C
	B				
	B				A-B
	A				A-A
	C				

classed in the ratings. They may have hidden virtues! I believe we can safely say that any of the cultivars in the tables will make an acceptable fine turf if "all goes well", if the grass is planted to favorable habitat and is well tended. But the search goes on for ways to minimize risk, to supply still better looking, more functional cultivars even if adopted only to certain uses (such as the golf course fairway or roadside berm) or to accommodate what has traditionally been marginal habitat.

Tables 1-3 reflect ratings by many individual observers, any of whom might see things differently than would another person. Certainly the ratings vary with fluctuations of the season, and from year to year (for the weather is not alike any two years). Keep in mind, too, that cultivars often go "down hill" with time, perhaps because new races of disease arise, or because abundant use of the cultivar permits epidemic spread. Some cultivars have special uses or adaptations, the reason why the Lawn Institute Variety Review Board's list included such self-reliant cultivars as Arboretum (appearance of which is little different from old-fashioned common bluegrass!). Some cultivars may be especially useful in blends or mixtures, extending the seed of more expensive selections while not downgrading performance of the combination. Quite often, as has recently been noted in Ohio scorings, cultivars not high-ranking of themselves may end up in near the top when combined in blends!

Artistic concoctions

Concocting blends (cultivars of the same species) or mixtures (combinations of different species) is more an art than a science. At the Lawn Institute identical mixtures planted on different occasions, and in different locations, may sometimes have bluegrass dominate, another time fescue. An ecological principle, "competitive exclusion", states that similar organisms in a stable environment will not exist indefinitely in balance, but that one component will outcompete the other (which will then be gradually eliminated). Competitive exclusion often holds for lawnseed blends and mixtures, but equally often a minority component hangs on sufficiently to experience a revival should tribulation afflict the initial dominant. Merion, for example, is a strong competitor, tending to dominate less aggressive cultivars such as Fylking, until stripe smut (against which Fylking is resistant) sets back the Merion.

More studies needed

It is not possible to test blends and mixtures under all environmental conditions, and much is still to be learned about competitiveness of cultivars. Experience with crop plants has proven that some cultivars outcompete the weeds much better than do others, whether due to inherent vigor or to allelopathy (repressive secretions). The interactions are so involved, and beyond our ability to do much about them, perhaps lawnseed blending will always remain an art, in which experienced seedsmen do their best, realizing that sometimes one, sometimes another component will "carry the ball". It's really immaterial just so something does persist to make a fine turf!

Many avenues still merit exploration in the breeding and selection of new lawngrasses. So far resistance to insect attack has received little attention. Breeding for harmony with pesticides is in its infancy (in Illinois, recently, bluegrass cultivars were rated for Ronstar phytotoxicity, for example). Attention is now being given performance under ultra-low maintenance (e.g. Ohio). In time breeders may incorporate special features, such as Merion's ability to photosynthesize through the leafsheath (thus enabling the grass to endure defoliation more adequately) as proved by Dr. Youngner's growth chamber work in California. Certainly there is no theoretical reason why the hardiness of grasses from harsh environments cannot be bred into less hardy cultivars. □

For table 3 see page 22

TABLE 3 Performance of lawngrass cultivars on the East Coast. A = in top third (A* = top 10%), B = in middle third, C = in bottom third of ratings compiled by local authorities. For specific responses, 1 = good, 2 = medium, 3 = poor.

	MASSACHUSETTS				CONNECTICUT			RHODE ISLAND		NEW JERSEY				MARYLAND			VA.
KENTUCKY BLUEGRASSES	overall average	spring color	Helminth	Dollar-spot	overall average	Helminth	Dollar-spot	1½″	¾″	overall average	Fusarium	Leaf spot	strip smut	Hopkins 1½″	Hopkins 2½″	Centerville 2½″	Newport News 3-yr. av.
Adelphi	B	2	3	1	C	1-2	1-2	A	A	A*	1	1	2	B			
Arboretum																	
Arista	C			1	B	1-2	3	C	C					A	B	C	C
Baron	A	2	1	1				B	A	B	3	2	2				A
Birka	B			1	A*	1-2	1-2					1	1				
Bonnieblue	C			1				A	A*	A	3	1	1		B	A	
Brunswick								A	A*	A	3						
Enmundi										B	1						
Fylking	B	2	1	1	B	1-2	1	B	B	B	3	1	1	A*	A*	C	A
Galaxy										A	3						
Georgetown					B	1	1-2										
Glade										A	1	2	1				
Majestic	C			1				A*	B	A*	3	1	2		A	A	
Merion	A*	3	1	1	B	1	3	B	A	A	3	1	3	A	A*	B	A*
Nugget	A*	3	1	3	B	1	3	B	B	B	2	1	1	C	C	C	
Pennstar	B	2	1	1	A	1-2	1-2	B	B	B	3	1	1	B	B	C	B
Plush										A	3						
Prato					A	3	1	C	C					C	C	A	C
Ram I										A*	2						
Sodco					B	1	1-2	B	B	A	2			B	C	B	A*
Sydsport	C			2	C	1	3	A	B	B	1	1	1	C	A	B	A*
Touchdown	B			1						A*	1	1	1				
Common						3	1-2	C	C	C	1	3	1	C	B	B	C
Park	B	1	1	1	C	3	1-2	C	C	C	1	3	1	B	B	C	C
Windsor					B	3	1-2	C	C	B	1	2	3	B	B	A	B
FINE FESCUES		✓ = better high than low	Helminth	Dollar-spot				1½″	¾″	overall average							
Atlanta	A		2	2						A							
Banner	A									A							
Fortress										B							
Highlight	A	✓	2	3				B	A	A				B			
Jamestown	A		2	2				A	A	A				A			
Koket	B	✓						A	A	B							
Pennlawn	B		2	2				B	B	B/C				A			
Ruby	C	✓	3	2				C	C	C				C			
PERENNIAL RYEGRASSES																	
Citation										A							
Compas										C							
Derby										A							
Diplomat										A							
Game										C							
Manhattan	A									A							A
NK-100	C									C							C
NK-200	C									B							
Pelo										B							B
Pennfine	A									A							
Yorktown										A							
Common																	

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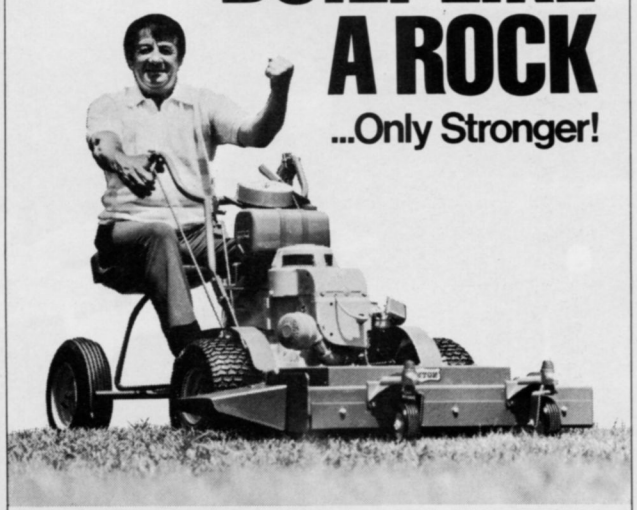

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CULTIVAR GLOSSARY

KENTUCKY BLUEGRASSES*

ADELPHI—Rutgers hybrid from an unreduced egg of Bellevue polinated by Belturf, 80 chromosomes; chief proprietor is Adikes, Jamaica, N.Y.

Dark, low, with a lengthy season and good spring color; responds to fertilization; good disease tolerance (some leafspot Midwest, resists snowmold, rust, Fusarium and stripe smut); medium texture with foliage rather upright; about 15 percent sexual; wide adaptability; relatively few seedheads.

ARBORETUM—mass selection from hot dry hillside at Gray Summit, Mo.; chief proprietor is Mangelsdorf, St. Louis, Mo.

Indistinguishable from "old-fashioned" Kentucky bluegrass, but unusually persistent and surviving under low maintenance. Best used for unpampered, tall-mowed swards; in spite of leafspot and intermittent setback, hangs on year after year.

ARISTA—selection from Van Engelen, Holland; chief proprietor is International Seeds, Halsey, Or.

A "better-than-average" fast-starting strain useful for sportsfields and for extending mixtures; superior to other "common" types, but generally below top cultivars; disease vulnerability, but good recovery.

BARON—clonal, pure-line from Barenbrug, Holland; chief proprietor is Loft, Bound Brook, N.J.

An all-around "workhorse" cultivar lacking striking features; high ratings for vigor, reasonable disease resistant (some Fusarium susceptibility); decumbent, stocky growth (withstands low and less frequent mowing.); with average spring color and many seedheads; economical and a good cultivar for sod; consistently above average in almost all locations; similarities with Cheri and Victa.

BIRKA—European selection; chief proprietor is E. F. Burlingham, Forest Grove, Or.

Good disease resistance, especially leafspot; slow to green in spring, and winter color not the best; little information yet released, but has rated well, including with minimum care in Connecticut.

BONNIEBLUE—Rutgers hybrid from an unreduced egg of Bellevue pollinated by Pennstar, 94 chromosomes; chief proprietor is E. F. Burlingham, Forest Grove, Or.

Dark, lengthy-season, decumbent; highly apomictic; excellent disease resistance, especially for leafspot, stripe smut and rust (though suffers some from Fusarium); withstands low-mowing; may show some hot weather stress, but outstanding in cooler weather.

BRUNSWICK—one of Rutgers selections; chief proprietor Turfseed, Hubbard, Or.

Little test information yet available.

ENMUNDI—Van Engelen, Holland, selection; chief

Continued on page 27

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CULTIVAR GLOSSARY

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Excellent general properties, dense and carpet-like but not winter quality of many domestic selections; limited "test" reports.

FYLKING—from Svalof, Sweden, about 80 chromosomes; U.S.A. chief proprietor Jacklin Seed, Spokane, Wa. (0217 strain).

Very attractive, luxuriant beauty; semi-decumbent and adapted to low mowing; highly apomictic; initially quite tolerant to disease, but mildly susceptible to leafspot, etc. recent years; gene linkages similar to Pennstar, with low seedhead formation and response to moderate fertilization; not aggressive; widely available as seed of excellent quality.

GALAXY—hybrid from Rutgers, Bellevue the seed parent, Pennstar the pollen plant, approximately 91 chromosomes; chief proprietor is Whitney-Dickinson, Buffalo, N.Y.

Excellent cool-weather performance and extended season; dark, low, highly apomictic, and well regarded for turf quality; medium texture; some susceptibility to stripe smut, but generally resistant to leafspot, Fusarium, mildew and rust: suggested in blends where smut is a problem.

GEORGETOWN—Rutgers selection; chief proprietor is Loft, Bound Brook, N.J.

Little reported information available yet, but initial trials are encouraging.

GLADE—selection, from a New York lawn; chief proprietor is Jacklin, Spokane, Wa.

Low, dark, resistant to mildew (a chief cause of loss in shade); recommended as a slow-growing, low-profile cultivar for shade or sun; highly true-to-type and very attractive; stands low mowing (tees); some characteristics of high-rating Birka, but better color; mild leafspot and Fusarium susceptibility, but quite resistant to rust and stripe smut.

MAJESTIC—another Rutgers hybrid of Bellevue pollinated by Belturf; chief proprietor is Loft, Bound Brook, N.J.

Beautifully low and dense, one of the most decumbent cultivars; makes a strong sod, with lengthy season; reasonably tolerant of all diseases; "tops" in Long Island tests; stands out in cool weather, particularly for dark color and low profile (excellent winter appearance); somewhat slowgrowing, and takes time to mature.

MERION—highly apomictic selection discovered near Philadelphia; sponsor is Merion Bluegrass Association, Hubbard, Or.

Long the "standard of excellence" for bluegrass cultivars — low, dense, of medium texture, and very attractive; excellent leafspot resistance, but suffering today from "new" diseases such as stripe smut and Fusarium as well as rust and mildew; still "tops" where diseases are not a serious problem; needs generous fertilization; better in more northerly regions than southerly ones; fairly slow to establish but strongly competitive and with good wear-resistance; tolerates low mowing.

Continued

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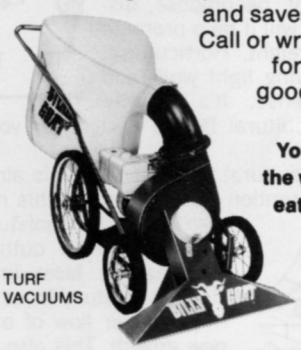
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CULTIVAR GLOSSARY

Continued

NUGGET — selection, discovered near Cook Inlet, Alaska; chief proprietor is Pickseed West, Tangent, Or.

A "breakthrough" for dark color, low, dense growth, and general attractiveness; some buildup of diseases (dollarspot, red thread and Fusarium principally), but good leafspot resistance and at least fair tolerance of mildew, rust and smut; "rave" ratings where free from disease; better northward than southward; does well in shade; slow vertical growth; excellent sod strength, rhizome and leaf production, but somewhat slow to establish.

PENNSTAR—Pure line highly refined at Penn State Univ. from European seed stock; chief proprietor is Seed Production Improvement Corp., Minneapolis, Minn.

Exceptional grace and beauty; resistant to serious disease attack, though suffering some from Fusarium; thatches little, strongly apomictic; requires only moderate fertilization; linkage of characteristics similar to Fylking; withstands low-mowing; produces few seedheads.

PLUSH—clonal selection from under a pinoak in New Jersey; chief proprietor is FFR Cooperative, West Lafayette, Ind.

Competitive and widely adapted; medium green color, reasonable disease resistance (some susceptibility to Fusarium), and low habit; exceptionally broad leaf blade provides a bold texture; early spring green-up; seems to perform well in southern parts of bluegrass belt, and rates with elite varieties under continental conditions.

PRATO — selection, from Holland; chief proprietor is Northrup-King, & Co., Minneapolis, Minn.

An above-average choice especially used for extending blends and mixtures; of good color, reasonably low, dense and drought-resistant; fine texture, few seedheads; seems resistant to dollar-spot, mildew, rust and stripe smut.

RAM I—Rutgers selection; U.S.A. proprietor is Loft, Bound Brook, N.J.

Little information, but generally good performance in reported tests.

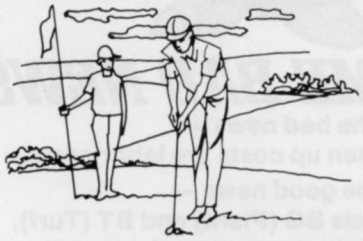
SODCO — composite of four "pure lines" selected at Purdue Univ.; chief proprietor is Purdue Agri. Alumni Seed Improv. Ass'n., W. Lafayette, Ind.

A tailored variety noted for low, slow growth, dark color, shade tolerance, good resistance to all diseases; of medium texture; few seedheads, and not prone to thatch; should be well fertilized for top performance; adapted to shade; slow establishing (thus needing less mow-

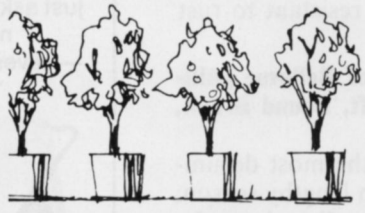
Horticultural Perlite...

The multi-purpose soil conditioner for turf, containers and propagation.

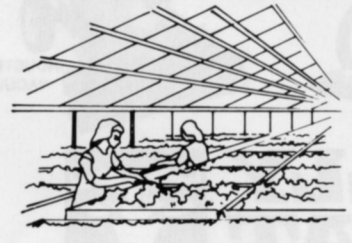
Professional landscapers and grounds maintenance men have long made Horticultural Perlite one of their main 'tricks of the trade'. It's an ideal soil conditioner that helps promote "a sea of green velvet". You see, by preventing compaction, it keeps the soil loose enabling more oxygen to reach and help nourish the root system. And because Horticultural Perlite also retains three to four times its weight in moisture, it keeps the root network moist long after watering. The result is a beautiful blanket of green growing on a thick healthy, robust root-system that not only keeps grass beautiful, but prevents **golf courses, institutional and campus lawns and residential lawns** from getting soggy, mushy or soft underfoot.



Nurserymen find Horticultural Perlite practically indispensible for **container grown plants and shrubs** because of its ability to retain moisture, and to keep the mixture around the root environment loose. It is also a great "starting mixture" for transplanted stock as it helps reduce the incidences of transplant shock. And because Horticultural Perlite is sterile and non-toxic, it won't rot, decompose, disintegrate or break down. Nor will it help promote insect life. Being light in weight, Horticultural Perlite makes container moving light work and shipping costs a lighter expense. It's not only ideal for your plants — Horticultural Perlite is ideal for your business.



For **plant propagation**, Horticultural Perlite soil mix is almost as important as sunlight. Because of its water-retention characteristics, this mixture maintains an even distribution of moisture to stimulate fast root development in cuttings and to speed seed germination. Most important, by keeping the starting mixture loose, Horticultural Perlite permits a freer flow of oxygen to help nurture the new growth. This also makes transplanting easy; without root damage; and without undo shock. Horticultural Perlite is inert matter that can last indefinitely in your seed beds. It is sterile, odor-free and can't promote insects or bugs. It is a great asset for the new beginnings of plant life.



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ing), but takes half again as long to make mature sod as faster cultivars; widely adapted.

SYDSPORT — selection, from Sweden; chief proprietor is E. F. Burlingham, Forest Grove, Or.

Bold (broad-bladed), vigorous and aggressive, suggested for "hard use" areas; resists leafspot, but suffers some from rust and dollarspot, and may develop thatch; well thought-of where an "ebullient" selection is appropriate.

TOUCHDOWN — Rutgers and USGA release, clone discovered by Supt. Rewinski on Long Island fairway; chief proprietor is Pickseed West, Tangent, Or.

Bright-green, medium-low, fine-textured cultivar with rather upright foliage; stands low mowing (tees); long growing season; disease-resistant (except mildly affected by Fusarium); highly apomictic; requires only moderate fertilization, yet establishes rapidly.

FINE FESCUES**

ATLANTA—selection; chief proprietor Northrup King & Co., Minneapolis, Minn.

Little information; promising having rated highly in limited testing.

BANNER—Rutgers 45-clone synthetic from East Coast Sources; proprietor is E. F. Burlingham, Forest Grove, Or.

Chewings type; fine texture, dark color, moderately low-growing; strong sod; widely adapted, perhaps into the Southeast; tolerates low pH and low fertility.

FORTRESS—Rutgers 6-clone synthetic assembled from old turf areas East Coast; proprietor is Turfseed, Hubbard, Or.

A spreading fescue, bred especially with roadside use in mind; spreads aggressively but thatches little; mid-summer leafspot, but recovers well; usual fescue tolerance of low fertility, low pH and shade; utilitarian rather than consistently beautiful.

HIGHLIGHT — selection? from Holland; chief proprietor, International Seeds, Halsey, Or.

A "show-off" (especially bright and beautiful) of the Chewings type; establishes rapidly, and has excellent color; can be mowed low for over-seeding golf greens.

JAMESTOWN — selection from abandoned seaside planting in Rhode Island; chief proprietor, Loft, Bound Brook, N.J.

A Chewings-type fescue with exceptionally low growth and dark color; durable and recuperative; enjoys high ratings generally; some-

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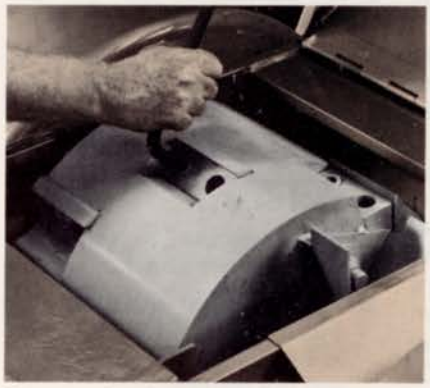
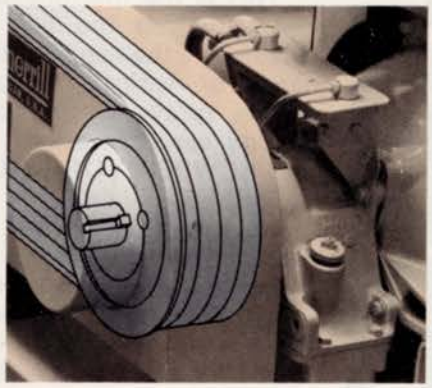


Staggered knife pattern, for years a Mitts & Merrill feature, has always resulted in a lower noise level. First, by segmenting the noise source. Second, through smoother cutting action. Third, by producing smaller chips.



Optional torque converters and the heaviest steel cylinder — even without an external flywheel — combine to give positive cutting action under the most rugged conditions. Isolates the engine from shock. Minimizes maintenance.

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CULTIVAR GLOSSARY

Continued

what susceptible to leafspot, but good recovery and strong summer performance; excellent for golf green overseeding.

KOKET — synthetic from 5-clonal lines selected in Holland; chief proprietor, E. F. Burlingham, Forest Grove, Or.

A strong Chewings cultivar with excellent tillering capacity; consistently among the top-rating cultivars; good density and weed resistance; not quite so brilliant as Highlight, but perhaps steadier, with good disease resistance.

PENNLAWN — tripartite, synthetic from Pennsylvania State Univ.; public variety.

Familiar "improved variety" standard for comparison, exhibiting general "average" performance.

RUBY — selection, from Holland; proprietor, Northrup, King & Co., Minneapolis, Minn.

An open-growing fescue of the spreading type, especially useful in mixtures, and for low maintenance areas; tends to remain vegetative, with limited seedhead formation; good spreader and establishes rapidly; intermediate in turf qualities.

PERENNIAL ryegrasses***

CITATION — Rutgers 3-clone synthetic; proprietor is TurfSeed Inc., Hubbard, Or.

Fine-texture, dark color and semi-decumbent growth habit characteristic of the new "turf-type" perennial ryegrasses; mows neatly; good summer performance.

COMPAS — mass selection, from Holland; chief proprietor, International Seeds, Inc., Halsey, Or.

More "turf-type" qualities (reasonably low growth and density) than common ryegrass, fairly fine-textured; wear resistant; establishes rapidly; one of the earlier introductions of intermediate nature.

DERBY — 12-clone synthetic assembled in Indiana; chief proprietor, International Seeds, Halsey, Or.

All-purpose cultivar ranking with Manhattan and Pennfine in quality; dense, mows cleanly, tolerates low mowing; good disease tolerance; wear-resistant and reasonably tolerant of cold; not so fine-textured as is Pennfine.

DIPLOMAT — A Rutgers synthetic; proprietor is Loft, Bound Brook, N.J.

An excellent turf-type cultivar a peer of Citation, Derby, Manhattan, etc., but not yet widely reported upon.

GAME — clones screened in Holland; U.S.A. proprietor is Willamette Seed, Shedd, Or.

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CULTIVAR GLOSSARY

Continued

cultivar economical for massive use such as athletic fields; reported to be broadly adapted hard-wearing and quite winter-hardy; well-suited for temporary cover; resistant to rust.

MANHATTAN — 16-clone multi-line chiefly from Central Park, New York sources; chief proprietor is Whitney-Dickinson, Buffalo, N.Y.

An outstanding "turf-type" perennial ryegrass, low, dark, mows well, is uniform, and has good winter hardiness: the pace-setter in trend towards improved ryegrass cultivars; a little slower sprouting than some selections, but excellent for overseeding golf greens; may sometimes suffer rust, leafspot and light brownpatch, but generally rates highly for continental as well as coastal climates.

NK-100 — cross of famed S-23 (Europe) with Oregon perennial, mass selection; chief proprietor, Northrup, King & Co., Minneapolis, Minn.

Persistent, leafy, rust-resistant, reasonably heat-and-drought-tolerant; rates highly on the eastern seaboard but weaker in continental climates and for southern overseeding; somewhat susceptible to Fusarium and Helminthosporium; mows less neatly than more recent releases, and not so winter hardy as NK-200.

NK-200 — selection from Minn.; chief proprietor, Northrup, King & Co., Minneapolis, Minn.

An unusually hardy cultivar (to —34° in Minnesota), finer-textured than NK-100; establishes rapidly, mows rather neatly, and resists most diseases (although somewhat susceptible to brownpatch); deep rooting, good for recreational areas where durability is needed; does well under modest maintenance; more apt to suffer from summer than winter stress.

PELO — synthetic, from Holland; chief proprietor, Northrup, King & Co., Minneapolis, Minn.

Reasonably fine-textured, dense; more durable, winter-hardy and neater mowing than common perennial, with a deeper color; fairly resistant to rust and snowmold (but somewhat attacked by brownpatch, Fusarium and Helminthosporium); an early improved cultivar generally not rating so highly as recent domestic releases; provides good quality in mixtures and for winter-seeding in the South.

PENNFINE — 3-clone synthetic from Pennsylvania State Univ.; proprietor is Seed Production Improvement Corp., Assoc., Minneapolis, Minn.

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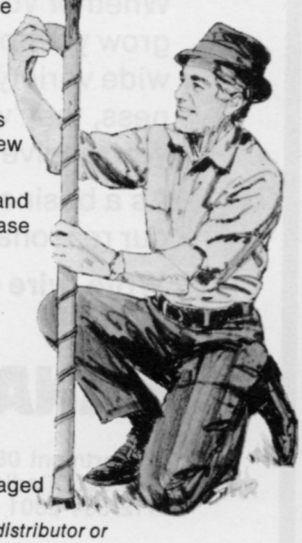

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rating at or near the top in density, uniformity, color, disease resistance and general desirability; a good putting surface for overseeding southern golf greens, with a gradual transition; unusually fine-textured, and mows neatly; little disease.

YORKTOWN — Rutgers synthetic multi-clone polycross; proprietor is Loft, Bound Brook, N.Y.

Dense, fine-textured, dark-green, with an attractive sheen; excellent seedling vigor, and moderate growth rate; too new to have been tested widely, but apparently adapted wherever perennial ryegrass is used; good disease resistance, but some brownpatch; many of the characteristics of Manhattan.

***KENTUCKY BLUEGRASSES** — Bluegrass is the outstanding lawngrass for the North, sometimes a bit slow to make cover but once established highly recuperative and easily cared for (spreading by rhizomes, mowing neatly), excellent for all except very poor situations.

****FINE FESCUES** — Fescues are mostly used in bluegrass mixtures, or planted in dry, poor soil, shaded locations. They are very attractive during cooler portions of the year, beautiful in texture and color, but often suffer summer stress. Fescues do not spread by rhizomes so abundantly as do bluegrasses, nor mow so cleanly.

*****PERENNIAL RYEGRASSES** — The improved ryegrasses are now as attractively fine-textured as is bluegrass. Seed sprouts quickly, and seedlings are vigorous. Bluegrass is generally included with ryegrass for permanence, better spreading, and neater mowing, although many athletic fields are kept in top shape by overseeding with perennial ryegrass. Best adapted to equable climates neither overly cold nor warm seasonally. Require about the same care as bluegrasses, but are faster growing and may need some extra mowing.

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Meeting Dates

1976 NCTD Irrigation Seminar, Oakland Hilton Inn, Oakland, Cal.,Oct. 6.

International Society of Arboriculture 1976-77 Annual Meetings

New England Chapter — Woodstock Inn, Woodstock, Vt., Oct. 24-26.

New Jersey Chapter — Sheraton Post Inn, Cherry Hill, N.J., Nov. 13.

Indiana Chapter — Stouffer's Indianapolis Inn, Indianapolis, Ind., Jan. 4-6.

Kentucky Chapter — Galt House Motel, Louisville, Ky., Jan. 14-15.

Ohio Chapter — Sheraton-Columbus Motor Hotel, Columbus, Ohio, Jan. 23-27.

Rocky Mt. Chapter — Regency Motel, Denver, Col., Jan. 24-26.

Penn-Del Chapter — Marriot Motor Hotel, Philadelphia, Pa., Jan. 27-28.

Midwestern Chapter — Pfister Hotel, Milwaukee, Wisc., Feb. 1-3.

Southern Chapter — Holiday Inn, Pine Mountain, Ga., Mar. 6-9.

Western Chapter — Hilton Inn, San Diego, Cal., May 20-23.

Sixth Annual Colorado Crop Protection Institute, Colorado State University, Fort Collins, Col., Nov. 10-11.

31st Oklahoma Turfgrass Conference, Oklahoma State University, Stillwater, Okla., Dec. 1-3.

Texas Turfgrass Conference, Rudder Conference Center, Texas A & M University, College Station, Tex., Dec. 6-8.

Wholesale Nursery Growers of America, Hyatt Regency-O'Hare, Chicago, Ill., Jan. 9.

National Association of Plant Patent Owners, Hyatt Regency-O'Hare, Chicago, Ill., Jan. 10.

Mailorder Association of Nurserymen, Hyatt Regency-O'Hare, Chicago, Ill., Jan. 10.

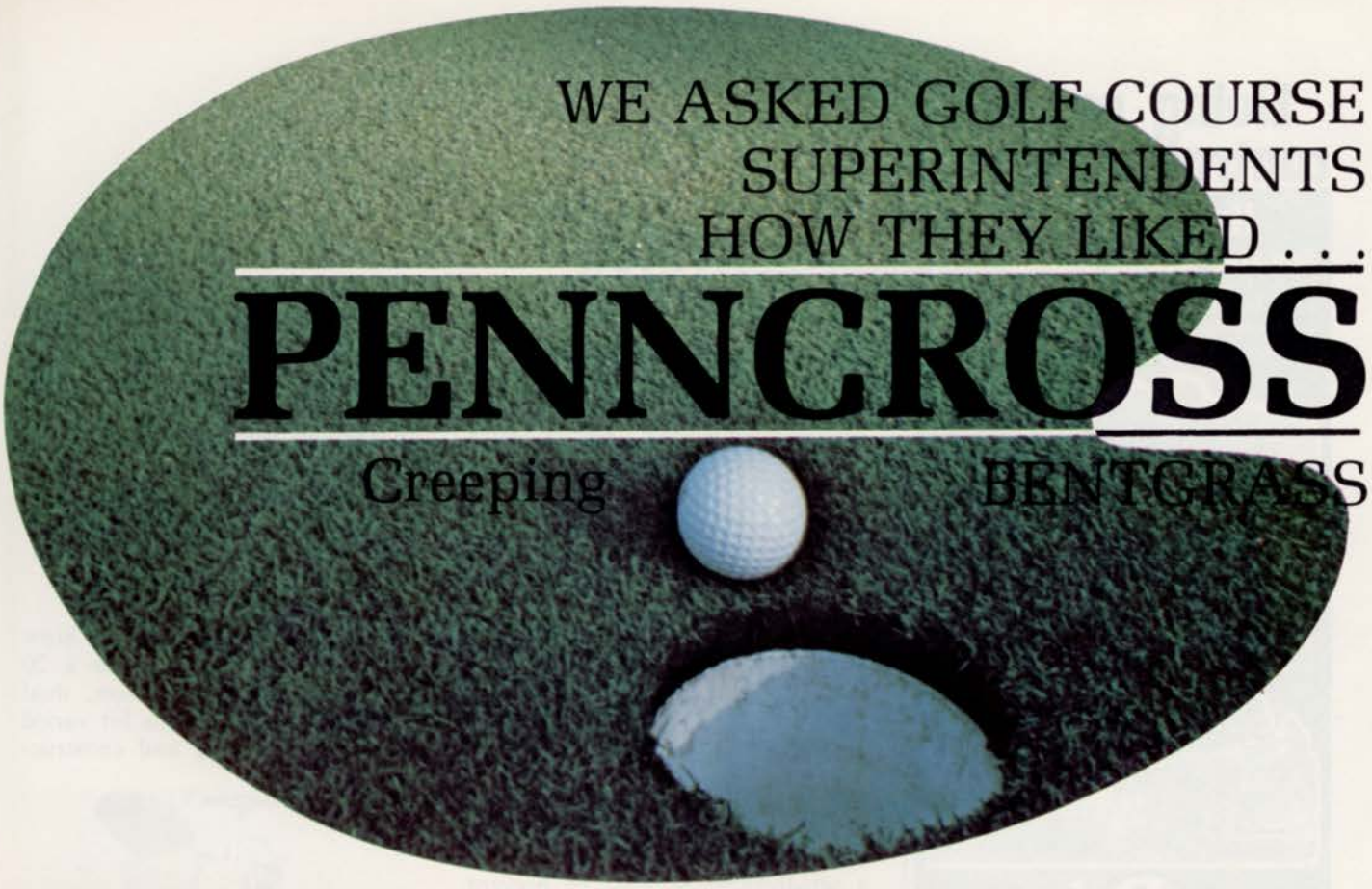
Landscape/Garden Center Management Clinic, sponsored by the National Landscape Association and Garden Centers of America, The Galt House, Louisville, Ky., Feb. 2-23.

29th Annual California Weed Conference, Woodlake Inn, Sacremento, Calif., Jan. 17-19.

Southern Turfgrass Conference and Show '77, Cook Convention Center, Memphis, Tenn., Jan. 17-19.

20th Annual USGS Green Section's Educational Conference, Hyatt Regency (downtown), Atlanta, Ga., Jan. 28.

Midwest Regional Turf Conference, Purdue Memorial Union West Lafayette, Ind., Feb. 28-Mar. 2.



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Speidel Golf Course Crespen Golf Course

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Lavern L.Wernett, Sup't
Kanawha County Parks & Recreation
Charleston, West Virginia

I am the Senior Golf Course Supervisor for the City of Santa Barbara, California. I would like to tell you about the changeover at the City Municipal 18-hole golf course and the four lawn bowling greens that are located within the city. In the past I have been overseeding the seaside bent greens with Penncross Bentgrass, and have achieved excellent results. I had always felt that golfers were the hardest people to provide good turf for, but when it comes to lawn bowlers it is even more of a challenge.

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Santa Barbara, California
Santa Barbara Community Golf Course

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Andy Birtoni
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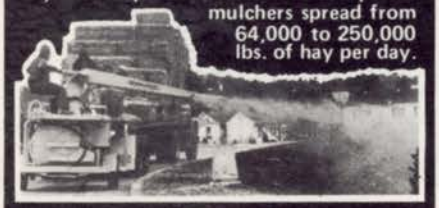

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Vermeer is introducing a new tree transplanting/harvesting attachment which uses its hydraulic power to dig, ball and transplant and transport 3" diameter trees and shrubs within minutes. Its high tensile steel spades form a 30" diameter ball

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Allis-Chalmers has added a 19 ½ hp tractor to its line of lawn and garden equipment. The latest offering, Model 720, uses a hydrostatic drive system and 3 speed transmission to function well in farming, landscaping, bulldozing, hauling, towing and snow removal. It goes 10.4 mph forward and 6.2 mph in reverse and features a large capacity pump for hydrostatic and hydraulic power control. It receives power from its 2 cylinder, 4 cycle Onan engine.

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tion maintenance. It also uses an offset compression roll and offers a choice of hydrostatic or planetary transmissions.

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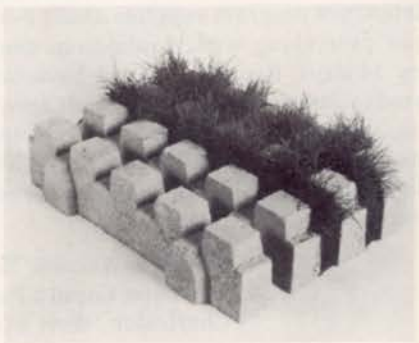

measuring 17 ½" wide x 23 ½" long x 4 ¾" high, don't require drainage systems and work as erosion guards on slopes greater than 45 degrees.

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Victory Over Vectors

When Lynn Davis became superintendent of Brookfield Country Club in 1961, there was a lot of pressure from his Greens Committee to save the remaining elms not yet infected by Dutch Elm Disease (DED). Planners of the fifty-year-old course, located just outside Baffalo, had used nearly 2,000 of the fast and large growing American Elms to form doglegs on the fairways, shade the clubhouse area and in general add to the natural beauty of the western New York state course.

But, like many other areas of the country, Brookfield's elms were being infected with a DED plague. Davis quickly found that hundreds of the stately elms were showing signs of the disease.

"Being a superintendent means that you are an expert on turf grass production and management," says Davis. "I knew something about general shade tree care, but really nothing about a complicated disorder like Dutch Elm Disease."

However, in the nearly fifteen years that have elapsed, Davis has become quite knowledgeable about Dutch Elm Disease. While there aren't the vast numbers of elms on the course today as there were before, the remaining elms are healthy, vigorous and free of disease.

Tests made in June by Dr. Alex Shigo, plant pathologist, Northeastern Forest Experiment Station, U.S. Forest Service, indicate that Davis' program to save elms has caused little internal damage to the trees.

Using an unusual instrument called a Shigometer — which detects decay by the patterns of electrical resistance measurements — Dr. Shigo gave the Brookfield elms an exam comparable to that given to doctoral candidates at a medical school. He probed the locked-in history of the elms to "see" what has happened since Davis began his preventive program. Without cutting any tree down, Dr. Shigo determined whether decay was present.

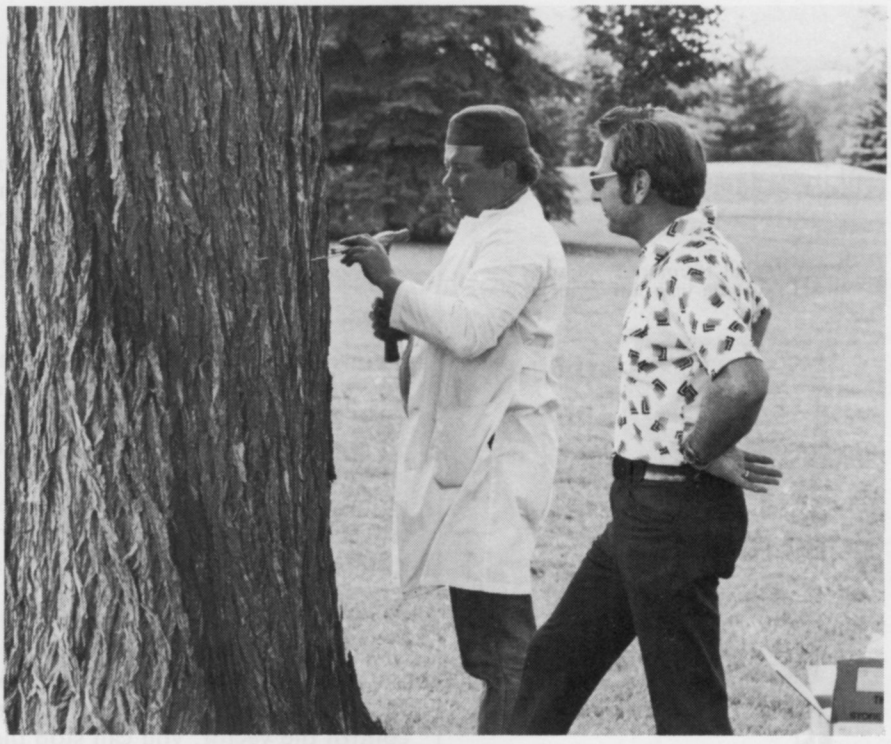
"I was like and expectant father at the hospital for the first time," recalls Davis. "I had worked on this program to save our elms for twelve years, yet I didn't know if what I had been doing was the right thing.

"When Dr. Shigo slipped his probe into the first big elm next to the clubhouse, I literally held my breath."

Dr. Shigo first drilled a hole perpendicular to the trunk about eight inches deep with a 3/32-inch bit. Then, slowly slipping the probe into the hole, he carefully watched the Shigometer.

"The needle on the meter jumped right away — and so did I," says Davis. "However, Dr. Shigo said not to be concerned as the probe was passing through the cambium layer, and the lower the relative resistance value, the better the score."

"Then the needle didn't respond for another 3½ inches," he continued. "Dr. Shigo said that there was no decay present. When the Shigometer started showing response, the plant pathologist said that he thought the elm might have a wetwood condition, a bacterial condition present in many elm trees. He said it was something I didn't have to worry about." Three more probes



Mauget feeder tubes are placed into the xylem tissues of this elm with an insertion tool and a hammer.

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Victory

All eyes are on the Shigometer as Dr. Shigo probes this stately elm. The Shigometer was developed by Dr. Shigo as a means to detect decay in wood.

on this elm confirmed the finding that the wood was sound. It was the same with other elms on the course.

Lynn Davis has reason to be enthusiastic about Dr. Shigo's report. Twelve years is a long time, especially when you have to report progress to an exacting Greens Committee.

"I have followed a plan that includes strict sanitation and chemical injections to control Elm Bark Beetle. My theory is that if you can control the vector, you can stop the disease."

Davis developed this plan after spending countless hours in conference with university specialists and local county extension agents. His first step was to sanitize the course of diseased trees.

"I secured the records of diseased trees from former Brookfield superintendents and updated them," he says. "In the eight year period from 1956 until 1964, 1,748 elms were lost to DED. We went throughout the course and removed any elms that were showing signs of disease."

Then he began his research program in tree injection. His first injection was on May 14, 1965, with Bidrin. The chemical was packaged in plastic capsules for direct tree injection. He figured that Bidrin would control the American Elm Bark Beetle *(Scolytus multistriatus)* and the European Elm Bark Beetle *(Hylurgopinus rufipes)* which feed on the elm twigs.

"That first spring there were only 47 elms remaining on the 18-hole course," Davis recalls. "As far as I could determine, only one of the treated trees was infected at that time with the *Ceratocystis ulmi* fungus." The single host tree contacted the disease through a root graft and was removed later that same year.

The superintendent continued his treatment procedures and record keeping. By injecting the insecticide each spring just before the beetle enters its final life cycle and begins feeding on the elm twig, Davis was able to stop the fungus from entering the tree's vascular system.

The recorded life cycle of the Elm Bark Beetle from larvae through the feeding stage and into the egg laying stage lasts about 30 days. Davis discovered that by injecting one milliliter of insecticide per capsule into the tree's sap system, he could completely control all insect feeding for the first 30 days and keep the feeding to a minimum for up to 45 days after injection.

During the resulting twelve years of experimentation and record-keeping, Davis theorized that he had reduced the threat of DED to his remaining elms.

Environmentally, this method of chemical tree injection is totally safe. A feeder tube is inserted into the xylem tissue of the tree at about chest height with an insertion tool. The capsule is then pressurized (about 10 psi) by hand and placed on the end of the feeder tube. Capsules are used at approximately six-inch intervals around the trunk.

"I had very little problem convincing the Greens Committee to back me with this type of research program of chemical control to stop Dutch Elm Disease," Davis says. "I described to them the safety advantages of having the chemical systemically moving throughout the tree in a 'closed' system. They were convinced."

Where does Davis go from here? "We plan to continue with the research program as in the past," says Davis. "Dr. Shigo proved that what we had been doing resulted in no decay. Trees were alive and healthy."

"But," he also pointed out "any wound on a tree can be an opening for infection, so we plan to be careful about damaging trees. I have one elm that has had over 450 injections. We will be careful about where we place our feeder tubes so as not to cause undue stress on any part of the tree after many years of injection. And, of course, we plan to be top-notch policemen when it comes to sanitation." □

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Industry News

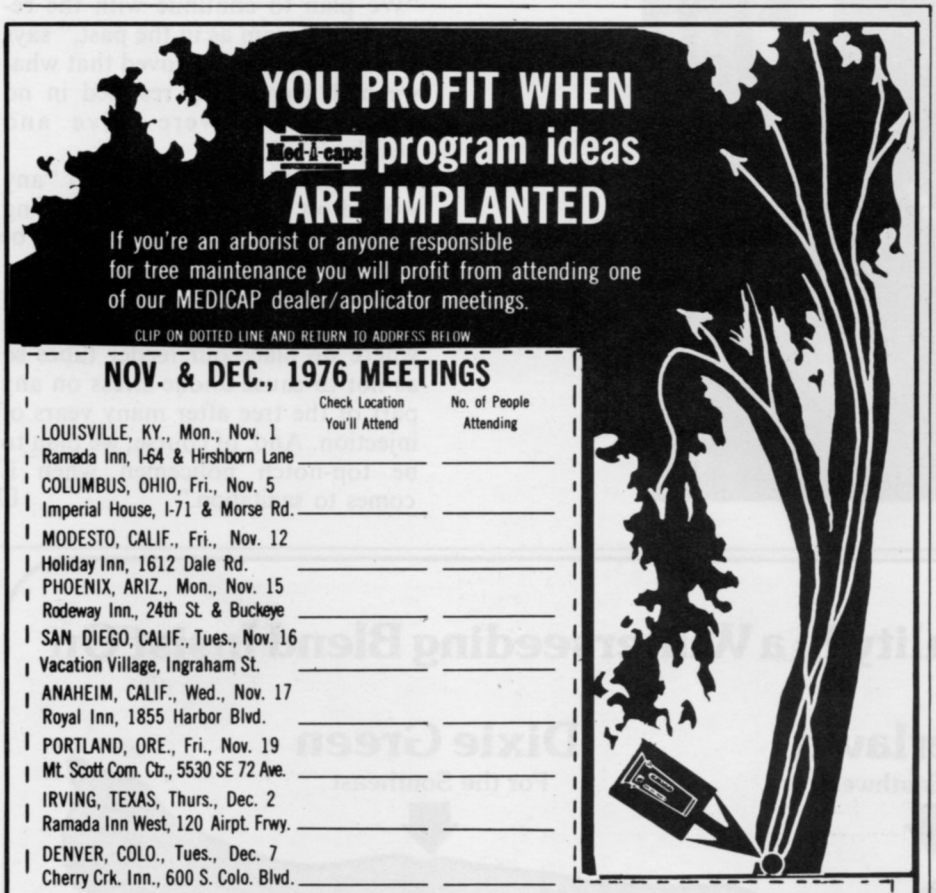
Ramsey launches seed mix dept.

A new Chemical and Turfgrass Division has been formed by Ramsey Seed, Inc., Manteca, CA, to provide individualized turf seed mixtures and chemical algae and weed control for golf courses, parks, and other landscape projects.

The new division will be headed by Larry Evans, who has directed chemical products sales for Ramsey for the past four years.

Ramsey Seed, a division of Celanese Corporation, is one of California's major processors and wholesale distributors of a broad line of grass and clover seeds for landscape and agricultural planting.

Its products include such widely used landscape seed varieties as Blando Brome, Annual Clovers, Lana Vetch, and Turfgrass. The new division will provide seed mixes of these and other varieties to individual specifications.



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COLUMBUS, OHIO, Fri., Nov. 5 Imperial House, I-71 & Morse Rd.		
MODESTO, CALIF., Fri., Nov. 12 Holiday Inn, 1612 Dale Rd.		
PHOENIX, ARIZ., Mon., Nov. 15 Rodeway Inn., 24th St. & Buckeye		
SAN DIEGO, CALIF., Tues., Nov. 16 Vacation Village, Ingraham St.		
ANAHEIM, CALIF., Wed., Nov. 17 Royal Inn, 1855 Harbor Blvd.		
PORTLAND, ORE., Fri., Nov. 19 Mt. Scott Com. Ctr., 5530 SE 72 Ave.		
IRVING, TEXAS, Thurs., Dec. 2 Ramada Inn West, 120 Airpt. Frwy.		
DENVER, COLO., Tues., Dec. 7 Cherry Crk. Inn., 600 S. Colo. Blvd.		

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Forestry gift is "moon tree"

Secretary of Agriculture Earl L. Butz recently received a "moon tree" seedling during ceremonies in honor of the 100th birthday of federal forestry in the United States. The Secretary accepted the tree on behalf of all Americans.

The tree, a 2-foot Loblolly pine grown by the Forest Service from seeds carried to the moon and back aboard Apollo 14 in 1971, was presented by Forest Service Chief John R. McGuire and Astronaut Rusty Schweickart of the National Air and Space Administration.

New green aphid eats Ohio turf

Many lawns in the Midwest are being attacked by a new lawn pest, identified as Schizaphis graminum (Rondani) or the green bug aphid. This is not the same aphid that attacks trees and shrubs.

Aphid damage on lawns in Ohio was reported as early as 1973, but cases were infrequent. In 1975 aphid damage was relatively common and there have been numerous reports so far in 1976, especially in the Columbus and Dayton areas.

The green bug aphid will feed both in shaded areas and in direct sunlight. The insect injects toxic substances into the grass blade and sucks out plant fluids. Populations of 20 or more per grass blade are not uncommon.

Damage first appears as an underfertilized or underwatered area turning to a distinctive brownish-orange cast. If left unchecked, large areas can turn totally brown and die.

Continued on page 44

How to make your board see the value of new turf equipment.

Convincing your Board of Directors that new turf equipment is a neccessary and sound investment can be one of your most difficult tasks. They don't always see the benefits behind such a purchase.

And as good businessmen, they won't commit the money until they're sold on the expenditure. So when it comes time to face them, here are some of the things you should point out.

Point #1: The Duffer Demands More.

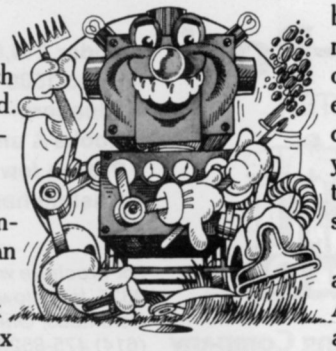
Today's golfer is more sophisticated than ever before. He has seen, and many times played, some of the finest courses in the world. He recognizes the value of a good course. And if yours is sub-par, he'll go elsewhere.

With this more sophisticated golfer comes the need for more sophisticated golf course maintenance. Heavy player traffic has increased the work required to keep the turf in top condition. So jobs that were once optional are now mandatory. Where spiking a green used to be sufficient, today it also needs deep aeration.

All this dictates the use of specialized equipment that wasn't available ten or even five years ago. Equipment that will enable you to build and maintain a top flight course, and help avoid special turf problems that could prove extremely costly.

Point #2: Machines Do More.

In the past decade, the price of labor has tripled. The same number of men must do more work in less time to give you the same value for each labor dollar invested. Mechanized equipment allows you to trim hundreds of unnecessary man-hours. One man can now cut more sod in an hour than six men used to cut in six hours. Or that same man can aerate 18 greens in a few hours instead of a few days.



New engineering concepts coupled with precision machinery means he'll do a consistently good job. You get better results and fewer occasions when a job must be redone.

And your turf equipment is depreciable; something your labor is not. You get an accounting break over a period of years. At the end, it's like owning a piece of free machinery. One that will continue to save you money long after you've paid for it.

Which brings us to the third point.

Point #3: Longevity Makes Them Worth More.

Equipment life should be a prime consideration when you select a manufacturer. The longer a machine works, the more it does, and the less maintenance it requires, the better your investment. And here's where we'd like to put in a little plug for Cushman and Ryan turf equipment.

Both lines of machinery are built to last . . . and last. It's not unusual to see a piece of Cushman or Ryan equipment still doing it's daily chores after ten or fifteen years of use. We believe the idea of "planned obsolescence" should be obsolete.

But performance is just as important as longevity. A Cushman Turf-Truckster and its accessories give you the capabilities to transport, spray, spike, dump, aerate, and top dress . . . all from *one* power source.

Ryan offers a machine for almost every turf task. Equipment that does a better job, in less time, and with a minimum of maintenance. For over 30 years, all Ryan equipment has been built with three goals in mind: quality, performance, and innovation.

If "A Day With the Board" is in your future, we'd like the opportunity to tell you more about the full line of Cushman and Ryan Turf equipment. Write to us and we'll send you our catalogs, full of detailed product information. Information that may help you open a few eyes to the value of new turf equipment.

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Circle 151 on free information card

Industry News

Continued from page 42

At present there are no labeled insecticides for aphids on turf. Materials labeled for aphids on trees, such as Diazinon and Malathion, will control them.

Fungus studied

Under a $20,000 research grant from the U.S. Department of Agriculture (USDA), scientists at the Agricultural Experiment Station of the University of Arkansas will study the effect of Colletrotrichium gloessporioides on animals, fish, birds, and grain. The fungus has been used as a weedkiller against northern jointvetch in Arkansas rice fields for the past four years.

The university researchers will try to determine whether the fungus causes disease or is poisonous when administered by various methods to rats, fish, and birds. Its effects on the eyes and skin of rabbits and guinea pigs will be studied. It will also be grown on grain to determine whether mycotoxins or mold poisons develop.

Results of the research will be used in applying for registration of the fungus as a weedkiller with the Environmental Protection Agency.

Cal. bans burial of defoliant

California officials have refused to permit a Texas company to bury surplus poisonous defoliant of the type that contaminated the Italian city of Seveso last summer.

Dr. Jerome Lackner, director of the California Department of Health, said that the Agent Chemical Company of Houston had requested permission to store 800,000 gallons of tetrachlorodibenzodioxine in sealed steel containers 100 feet underground at a storage facility in West Covina.

A department spokesman said there were too many unanswered questions about the burial of the defoliant, which was used in Vietnam. "We have no proof that the packing is going to last," he added.

A spokesman for the Ben K. Kazarian Company, where the chemicals were to be stored, said that the Federal government classified the substance as "extremely hazardous." Tests were being conducted by the Kazarian Company to determine the safety of the cannisters.

EPA OKs Sevin 4 Oil carbaryl

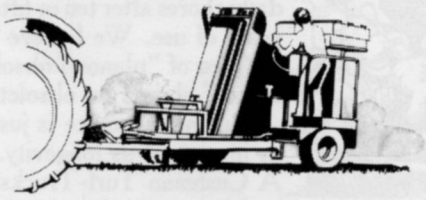
Sevin 4 Oil carbaryl insecticide has received federal registration from the Environmental Protection Agency for control of the Western spruce budworm, Union Carbide Corporation, the manufacturer, has announced. The compound was tested extensively in Montana, Washington, Maine, Minnesota, and Canada.

Registration covers aerial application at the rate of 1 quart per acre on the third to fifth instar larvae in the Rocky Mountains and west of the Rockies.

EPA also approved ground application of diluted Sevin 4 Oil through mistblowers for foliage protection of high value trees against both the spruce budworm and western spruce budworm. The recommended rate per 20- to 30-foot tree is 0.2 pint of spray in a 1-to-1

Continued on page 48

The "Tow-Boy"
SOD HARVESTER



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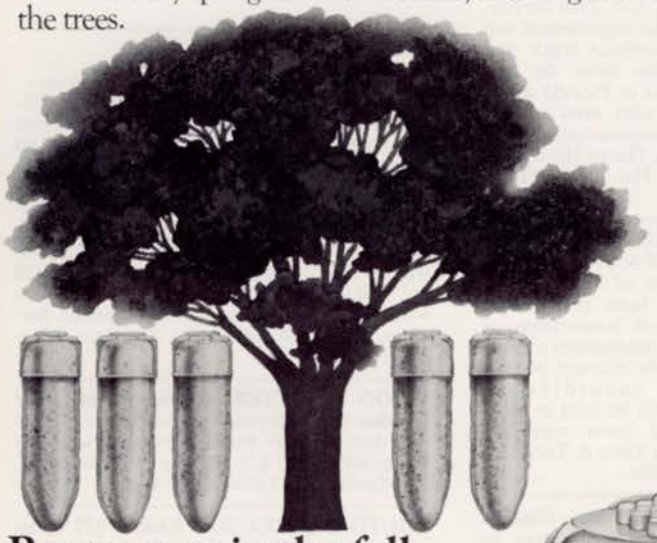
"I like to send trees into winter in good, healthy condition. That's why I feed in the fall with Jobe's Spikes."

Frank Lamphier, Superintendent Aspetuck Valley Country Club, Weston, Connecticut

"Last winter, we had three weeks when the temperature was never above 10 degrees. Weather like that is rough on trees, so I believe in sending them into winter in the best possible condition. We use Jobe's Spikes on everything in the fall...willows, evergreens, maples, all our trees and shrubs."

Jobe's makes good fall or winter fill-in work.

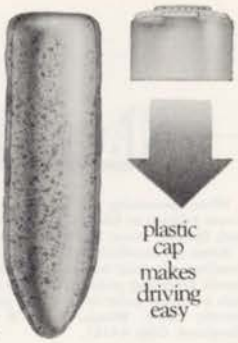
When work slacks off, it's time to get busy with Jobe's® Tree and Shrub Spikes. It helps eliminate one chore from the busy spring-summer months, and it's good for the trees.



Roots grow in the fall, so feed them in the fall.

Feeding with Jobe's Spikes in the fall while roots are growing helps overcome weakness brought on by summer heat, lack of moisture and ravages of insects. Helps trees get through winter in shape for a strong start in the spring. Just pound Jobe's Spikes into moist ground at the dripline at the rate of 1 per inch of trunk diameter.

Frank Lamphier says, "Jobe's Spikes are long lasting. When we use them in the fall, the trees get nourishment for the winter. Then, when spring rains start, the balance of the fertilizer is released to shoot them off for spring. We think one Spike does more good than one to two pounds of ordinary fertilizer."



"Jobe's Spikes work!"

"We started 12-inch pine seedlings 4 years ago, and now they're 6 to 8 feet tall. We fed them at transplanting with Jobe's Spikes and have fed them ever since with Jobe's. Growth like that really sold me." University leaching studies have shown that Jobe's Spikes are as effective as drilled fertilizer. Rainwater carries nutrients from the Spike to the root zone to a depth of at least 24 inches.

Jobe's Spikes are better than surface-applied fertilizer. You don't worry about run-off losses or about burning turf or causing excessive turf growth around trees.

"You can just tap them in with a hammer in moist ground."

A hammer is all the equipment you need with Jobe's Spikes. No bulky auger to carry from job to job. Nothing to break. No maintenance costs. No fertilizer bags to tear or spill.

Jobe's Spikes are a pre-measured amount of 16-8-8 fertilizer formed into a rigid, easy-to-drive spike.

"Jobe's Spikes don't take much space, or time."

"I can send a man out on a 3-wheel cart with enough Spikes to last all day.

"Working fast is important because I have just 7 men, and only 4 year-round. We're working on a major landscape program with trees and shrubs to improve the looks of the course. Jobe's Spikes really save us time."

Jobe's Evergreen Spikes 12-6-8 and Fruit Tree Spikes 5-15-15 are now available in bulk packs. They can be combined for shipping with Tree and Shrub Spikes.

Call your local Jobe's distributor or order direct. $30 per case (105 Spikes) prepaid, 5 case minimum. 15 or more cases, $25 per case.

The easy method for professional tree care. International Spike, Inc., 462 East High Street, Lexington, Kentucky 40508.

Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, Dorothy Lowe, Box 6951, Cleveland, Ohio 44101.

Rates: All classifications 50c per word. Box number, $1. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment. Mail ad copy to: Dorothy Lowe, Weeds, Trees & Turf, P.O. Box 6951, Cleveland, Ohio 44101.

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HELP WANTED

YEAR ROUND WORK A.A.A. Tree Service, Inc. of Florida. Looking for experienced top notch climbers with or without truck and equipment to work by the hour, on percentage or under Franchise in Florida areas. Also needed older men with sales ability. Mechanic with chain saw experience. Man to operate his own tree spade. Henry Hardy, Jr., P.O. Box 6173, Orlando, Fla. 32803. Phone 305 339-5242.

TURF FARM, GENERAL MANAGER — Growing firm needs hard-working Branch Working, with a minimum of 5 years practical experience in sod farm production. Technical knowledge and knowledge of production and harvesting equipment a must. Must be able to effectively manage people. Salary, negotiable according to qualifications. Inquiries will be held in strict confidence. Please send your complete resume to: Box 155, Weeds Trees & Turf, Box 6951, Cleveland, Ohio 44101.

WANTED EXPERIENCED tree climbers with climbing gear and transportation to work in New Orleans, Louisiana for large established tree service, $250.00 a week year round work. Drunks and drifters need not apply, must be experienced in all phases of tree work. Environmental Services, 3781 Dixon St., Metairie, Louisiana 70001. Phone 504 837-2314 no collect calls.

LAWN SPRINKLER FOREMAN WANTED: Must have 3 to 5 years experience in commercial and residental installations, steady work record, need a leader who cna handle men, job may entail a demanding work schedule with some travel, salary open depending upon experience and qualifications, company benefits. Send resume to Landscape Design and Construction, 2559 Southwell, Dallas, Texas 75229, c/o Michael Hernandez.

Birth defects are forever.
Unless you help.
TO PROTECT THE UNBORN AND THE NEWBORN
March of Dimes
THIS SPACE CONTRIBUTED BY THE PUBLISHER

TREE WORKERS — Foreman and Trimmers for powerline clearing; must be qualified with minimum 5 years experience only. Pacific NW region. Payrate from $6-$10 per hour. Send resume. Western Utility Construction and Tree Service, Inc., 1401 E. Yesler Way, Seattle, Washington 98122.

YEAR ROUND WORK at dan Zbin tree specialists. Looking for two experienced top-notch tree trimmers. The oldest and largest in the Broward County area. 2600 Southwest 2nd Ave., Fort Lauderdale, Florida. Phone 305 522-3227.

MISCELLANEOUS

RETREAD RYAN SODCUTTER
RETREAD YOUR RYAN SODCUTTER WHEELS
Original factory retread and material, at 1/3 the new replacement cost. 2-3 day service on all sizes.
MIDWEST PLASTICS, INC.
956 Prosperity Ave., St. Paul, Mn. 55106
(612) 771-8891

FOR SALE

TWENTY-YEAR ESTABLISHED BUSINESS — for sale — New Orleans largest tree and horticulture service grossing $200,000.00 plus, still growing. Owner must sell — have other interest. Will work with new owners one year. Sale price $250,000.00, no offers, includes hydrocranes, bucket trucks, chipper rig and 1975 Cadillac estimator car. All two-way Motorola equipment. New owners will net $80,000.00 plus. Call 504 837-2314 or write C. J. Graffagnini, Environmental Services, Inc., 3781 Dixon St., Metairie, Louisiana 70001.

WOOD SPLITTER attachment for your backhoe converts your backhoe to a splitter in less than 10 min. Build it yourself with our blueprints. Send $27.50. Lupton Enterprises, 32 Martha St., Tiffin, Ohio 44883.

SOUTH DAKOTA SOD FARM. 172 acres, irrigated, near Rapid City, all equipment included. Call Rich Neal at Am Prop Real Estate, 605 343-0398 or evenings 348-7595.

FOR SALE Tree Service Co. doing good business for utilities, also year round custom work. P.O. Box 247, Linton, Indiana 47441. Phone: 812 665-2669.

FOR SALE: Beck sod harvesting and sod installation system franchise. Beck Manufacturing Company, P.O. Box 2014, Auburn, Alabama 36830.

WANTED TO BUY

WANTED — Bean Royal 55 pumps and Bean 701 regulators. Washington Tree Service, 20057 Ballinger Rd., N.E., Seattle, Washington 98155. Phone 206 362-9100.

POSITION WANTED

HORTICULTURIST, age 23, in search of challenging position. A.S. and B.S. Degrees in Ornamental Horticulture. California licensed Landscape Contractor and Pest Control advisor. Five years experience in all horticulture aspects. Resume on request. H. Flokman, 9840 Exposition B1, Los Angeles, Calif. 90034.

Circle 129 on free information card

HITCH UP

TILTSTER the low bed trailer that tilts to ground level for easy 'roll aboard' loading.

An easy, one-man operation, Tiltster transports loads up to 5,000 lbs. anywhere you want them to go. Just a simple turn of the jack handle and the trailer body tilts downward for easy 'roll-aboard' loading. Bed automatically returns to hauling position when loading is completed. Tapered, self-adjusting tailgate ramp provides smooth, gradual incline for fast, safe loading. Three models; 2,000 lbs. to 5,000 lbs. capacity.

Circle No. 142

TRAILEVATOR Hydraulically lifts its own load in seconds

Trailevator lowers to ground level for fast, 'roll aboard' loading then lifts its own load to hauling position in seconds. Lowers and lifts without uncoupling from towing vehicle. Four models, two capacities: 3,000 lbs. and 2,000 lbs. Bed sizes up to 5'-10" x 10'.

Circle No. 143

NORTHLAND utility trailers

Strong, durable, all-purpose utility trailer with unitized steel bed construction. Body tilts to ground level for fast, easy loading. Steel side racks and end gate with positive locking latch available. Three models; capacities to 2000 lbs.; bed sizes to 6' x 8'.

Circle No. 144

Single Axle Tiltster

Capacities to 3000 lbs.

Circle No. 145

Low Profile Utility Trailer

Capacities to 1500 lbs.

Circle No. 146

Flat Bed Utility Trailer

Two bed sizes, 1,000 lbs. cap.

Circle No. 147

Flat Bed Tandem Axle

Capacities to 2500 lbs.

Circle No. 148

MagLiner®

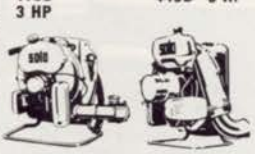
Magline Inc., Pinconning, Michigan 48650
P.O. Box 2610 Tel.: (517) 879-2411

solo blows profits your way

Air brooms come in two versions—with wheels or with shoulder straps. Wheels look comfy and modern, all right. But for blowing leaves out of flower beds, rock gardens or from under shrubs, for cleaning staircases, roofs, seat rows in arenas and convention centers, up ladders or down ships' holds, in trucks and rolling stock, or for blowing snow off a car dealer's merchandise on a cold Saturday morning—SOLO's ultra-mobile lightweight knapsack blowers have no wheeled competition. The SOLOs go where wheels don't.

410B 3 HP

449B - 5 HP



We offer two models, of 3 hp/35 cc. and 5 hp/70 cc., with special dust filters, comfortably padded adjustable shoulder straps and with a history of well-nigh 1,000,000 sales to back them up.

JETPAK 425

Your air broom clients are also interested in a good commercial herbicide sprayer. Our JETPACK-425 handles the most exotic weed and brush killers (plus wallpaper removers, concrete curing compounds, whitewash, swimming pool chemicals etc.) and won't quit. It's the only all-plastic sprayer on the market. No metal or rubber parts inside—thus, no swelling, shrinking, dissolving, leaking or corrosion. We guarantee that.

PORT-423 Chemical Mist Blower

SOLO supplies a wide line of blowers, sprayers, chain saws, tillers and other outdoor power products. We would like to tell you about our full line. Please give us a call.

solo

Box 5030, Newport News VA 23605 — (804) 245-4228
Box 464, Burlington, Ontario L7R 3Y3

Circle 133 on free information card

Industry News

Continued from page 44

by-volume mix of Sevin 4 Oil plus diesel fuel or kerosene.

Sevin 4 Oil is now registered for spruce budworm control for all areas east of the Rocky Mountains as well; its spruce budworm registration was previously limited to northeastern states only. Other forest insects for which Sevin 4 Oil is registered are the gypsy moth, cankerworm, saddled prominent, forest tent caterpillar, oak leafroller complex, and Japanese beetle.

Toro plans sale of Game-Time, Inc.

The Toro Company has announced an agreement in principle with a private group of investors for the sale of Game Time, Inc., manufacturer of outdoor institutional playground equipment and wholly-owned Toro subsidiary since July, 1972. The sale will be concluded in late October.

"While Game Time contributes approximately 10 percent to our overall sales and earnings, we feel that the funds involved can better serve our shareholders' and the company's own long-term interests in areas more closely allied to Toro's basic businesses," explained Toro's president David T. McLaughlin.

Toro is committing greater resources to the domestic and international markets for turf and agricultural irrigation equipment, riding mowers, tillers, and snowthrowers. The company will be introducing new products in each of these areas during the current fiscal year.

Game Time pioneered the concept of mobile recreation units in the leisure services field, and was among the first to introduce a line of therapeutic play equipment for children with disabilities.

McLaughlin said the sale is subject to several conditions, including approval by the boards of directors of both Toro and Game Time, as well as to final approval by the prospective purchasers, whom he did not identify.

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Circle 131 on free information card

Let's talk about bad service.

Let's say you've gone to all the trouble of carefully selecting the turf care equipment you've been looking for.

You've worked hard to find it, and get it at the best price you can, and delivered as quickly as possible.

Only to start using it and then discover you can't get good service on it. It's like you went to all that trouble for nothing.

We know you don't like bad service. And we don't either. That's why every Jacobsen distributor goes out of his way to be second to nobody in service.

The reason is really simple. We're independent businessmen whose success or failure depends upon our reputation. So we jealously guard it.

We do this by offering you the finest and most complete line of turf care equipment we can find. It's made by Jacobsen. Whatever you need, we probably have it.

Then we back it up with service matched by none. We have parts in stock. Our mechanics are Jacobsen-trained to know the equipment inside and out. And we can help you train your people in equipment maintenance through Jacobsen's school, or field training program.

Besides that, we can probably help you arrange a financing or leasing program to suit your needs.

And we can probably help you do a cost analysis of your turf care chores to determine which equipment will do the fastest job at least cost.

So the next time you need turf care equipment, talk to your Jacobsen distributor. He has the right product. If you want good service, he has that, too.

And that's not bad.

Not bad at all.

Your Jacobsen Distributors

Great products deserve great service.

For the name of the distributor near you write: Jacobsen Turf Distributor Directory, 1721 Packard Avenue, Racine, Wisconsin 53403

"In our area, we need a bluegrass that comes up fast and stays green longer... 3 years ago we picked Baron Kentucky Bluegrass. And we haven't changed since."

As a continuing series in reporting the thoughts of some of the best sod growers, here are some comments Loren Hentges of Blaine, Minnesota had about

baron KENTUCKY BLUEGRASS

U.S. Dwarf Variety Plant Patent No. 3186

"I always felt that one of the big disadvantages to a bluegrass sod was dry weather. Baron stands dry weather better than any bluegrass I have ever grown."

"Almost all of our customers are pleased with our Baron sod. In fact, I've never really had any complaints in the 3 years we've been growing Baron."

There's not much more we can add to Loren's comments except that Lofts Pedigreed Seed Company or any authorized distributor is ready to serve your needs wherever you grow sod.

LOFTS

Exclusive North American Grower and Distributor:

Lofts Pedigreed Seed, Inc.

Bound Brook, N.J. 08805 / (201) 356-8700

Loren Hentges, grower of over 500 acres of sod, is one of the major sod growers in Minnesota.

GOLF COURSE BUILDERS OF AMERICA MEMBER

Circle 101 on free information card

"Our season isn't as long as most areas of North America and the grass we seed must get up quickly and mature as fast as possible. We usually got about half a crop until Baron came along. Now we get two-thirds or three-quarters of a crop in the same growing period."

"Baron stays green longer in the Fall and that means more satisfied customers for me. When it gets cold up here, I need a grass that stays green right up to the time we deliver to our customers. When the grass goes dormant, I'm out of business."

"With Baron, I can take a crop off, re-seed for another stand and still get good establishment and excellent color in the Spring."

"The shipping quality of our sod is important to us. Baron makes a good roll because it is dense and keeps the roll tight."